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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,784	12/11/2001	Gunter W. Steinbach	10004402-1	1975

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AGILENT TECHNOLOGIES, INC.
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Intellectual Property Administration
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EXAMINER

LE, AMANDA T

ART UNIT PAPER NUMBER

2634

DATE MAILED: 04/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/021,784

Applicant(s)

STEINBACH, GUNTER W.

Examiner

Amanda T Le

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 11-14, 18-25, 29, 30 and 34 is/are rejected.
- 7) ☒ Claim(s) 5-10, 15-17, 26-28 and 31-33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/11/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 25 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 25 recites the conditioning circuit scales the summation signal “by an amount corresponding to a number of the decision signals received by the feedback circuitry”. The specification simply states, “Conditioning circuit 7 scales the summation signal 6 and processes the frequency characteristics thereof” (page 8, line 5).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 11-14, 18-23, 29, 30, 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Wong et al (US 5,940,442).

Wong et al discloses a high speed data receiver (Fig. 1) comprising the following claimed limitations:

In claims 1, 4, 20, “a plurality of decision circuits, each decision circuit having an input connected to a communications channel over which a digital signal is communicated” (104a-104d), “operating at a frequency that is a fraction of the bit rate of the digital signal and generating an output signal corresponding to the digital signal” (Fig. 3, 4A, 4B), “feedback circuitry for receiving the output signal of two or more of the decision circuits” (the feedback loop starting with the input to circuit 108s to the output of circuit 148), “applying a feedback signal to the input of the decision circuits as a function of the output signals from the two or more of the decision circuits” (150a);

In claims 2, 21, “the function is a sum of the output signals of the two or more decision circuits” (108).

In claims 3, 23, “an adder for receiving the output signal of the two or more of the decision circuits and generating a summation output” (108, 140), “a conditioning circuit for generating the feedback signal based upon the summation output of the adder, the feedback signal being suitable for modifying digital signals transported over the communications channel and appearing at the input of the decision circuits” (146).

In claims 11, 22, “the function is the average of the output signals of the two or more decision circuits” (col. 2, lines 53-56).

In claims 12, 29, “sampling a digital signal appearing at an end point of a communications channel so as to generate a plurality of sampled signals” (104a-104d, col. 2, lines 47-53), “applying a feedback signal to the end point of the communications channel, the feedback signal being based upon the sampled signals” (the feedback loop starting with the input to circuit 108s to the output of circuit 148).

In claims 13, 30, “averaging the sampled signals and generating the feedback signal based upon the average of the sampled signals” (col. 2, lines 53-56).

In claims 18 and 34, “the digital signal” or “the feedback signal” is “a differential signal” (col. 1, lines 8-10).

In claim 19, “summing the sampled signals and generating the feedback signal based upon the sum of the sampled signals” (108).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al.

Wong et al discloses almost all the subject matters claimed, as stated above, except for the conditioning circuit “converts the summation signal to a current”. Wong et al’s receiver operates in “the voltage mode”. Nonetheless, it would have been obvious to one of ordinary skill

Art Unit: 2634

in the art at the time of the invention to employ a widely known voltage-to-current converter to have Wong et al's feedback signal converted to "current signal" in a receiver where the components operate in "the current mode".

Allowable Subject Matter

7. Claims 5-10, 15-17, 26-28, 31-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: Prior art of record, taken individually or collectively, fails to disclose a multi-phase receiver for receiving a digital signal having the claimed arrangement and the feedback circuitry further comprises "a plurality of current steering switches, each current steering switch being driven by an output signal of a distinct decision circuit so as to pass a current there through based upon the value of the output signal of the corresponding decision circuit, each current steering switch being combined at the input of the decisions circuits to form the feedback signal" in the manner as claimed.

Conclusion


9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Zortea et al discloses a signal equalization and data recovery with non-linear digital threshold feedback.

Art Unit: 2634

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda T. Le whose telephone number is (571) 272-3052. The examiner can normally be reached on 10:30 A.M. through 7:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


AMANDA T. LE
PRIMARY EXAMINER